# DEC STD 072-0 Corporate POM (Point of Manufacture) Qualification Requirements

**DOCUMENT IDENTIFIER:** A-DS-EL00072-00-0000 Rev D, 12-Feb-1991

**ABSTRACT:** This standard provides requirements to assist the Manufacturing New Product Teams and the product plant to achieve and maintain Point of Manufacture (POM) qualification to ensure internal customer satisfaction. Internal customer satisfaction will facilitate a robust product introduction, meeting corporate customer satisfaction goals. These requirements have been developed using inputs from Product Business Units, Manufacturing, Engineering, and Customer Services groups.

**APPLICABILITY:** This standard applies to all product introduction efforts and is to be used by the Manufacturing New Product Team and individuals within Digital that support POM Qualification during the new product introduction cycle and throughout the product life. This standard is a requirement for all hardware and software products, including upgrades, add-ons, buyouts, and systems marketed by Digital.

**STATUS:** APPROVED 12-Feb-1991; use VTX SMC for current status.

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| Responsible Department: | U. S. Manufacturing, Engineering, and Technology |
| Responsible Person: | David Sullivan |
| SMC Writer: | Eric Falkof |

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David Sullivan - Manufacturing POM Program Manager

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Eric Williams - Standards Process Manager

Direct requests for further information to:

Wayne Wilcox
Use $ VTX ELF for the latest location information.

Use VTX SMC to order copies of this document from Standards and Methods Control. Send distribution questions to JOKUR::SMC or call DTN: 234-4423.

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# Preface

DEC STD 072 has evolved over the past few years into a cross-functional and system verification standard of ongoing and new product readiness. DEC STD 072 is a major component in achieving the Corporate Customer Satisfaction goals. This standard complements *DEC STD 028 Phase Review Policy*.

POM QUALIFICATION IS A PHASE 3 EXIT REQUIREMENT.

This standard addresses areas of responsibility, strategic planning, information management, and criteria required to achieve and maintain POM qualification. The information in this document is the result of inputs from Product Business Units, Manufacturing plants, Order Administration, Distribution, and Customer Services. By following DEC STD 072 we can identify and therefore correct systemic problems that effect customer satisfaction prior to volume shipments from Digital.

To achieve the Corporate Customer Satisfaction Goals, we need to ensure standards such as DEC STD 072 are incorporated in all new product plans. As in any new product activity, effort should be made to incorporate all required standards in one new product plan, to avoid redundant testing and work. By doing this we will assure consistency and compatibility across all products. This standard supports the objective of insuring that the new product introduction process is documented, auditable, and repeatable.

Please assure, as product managers, we are all committed to deliver on behalf of Digital Equipment Corporation, POM qualified products to our customers.

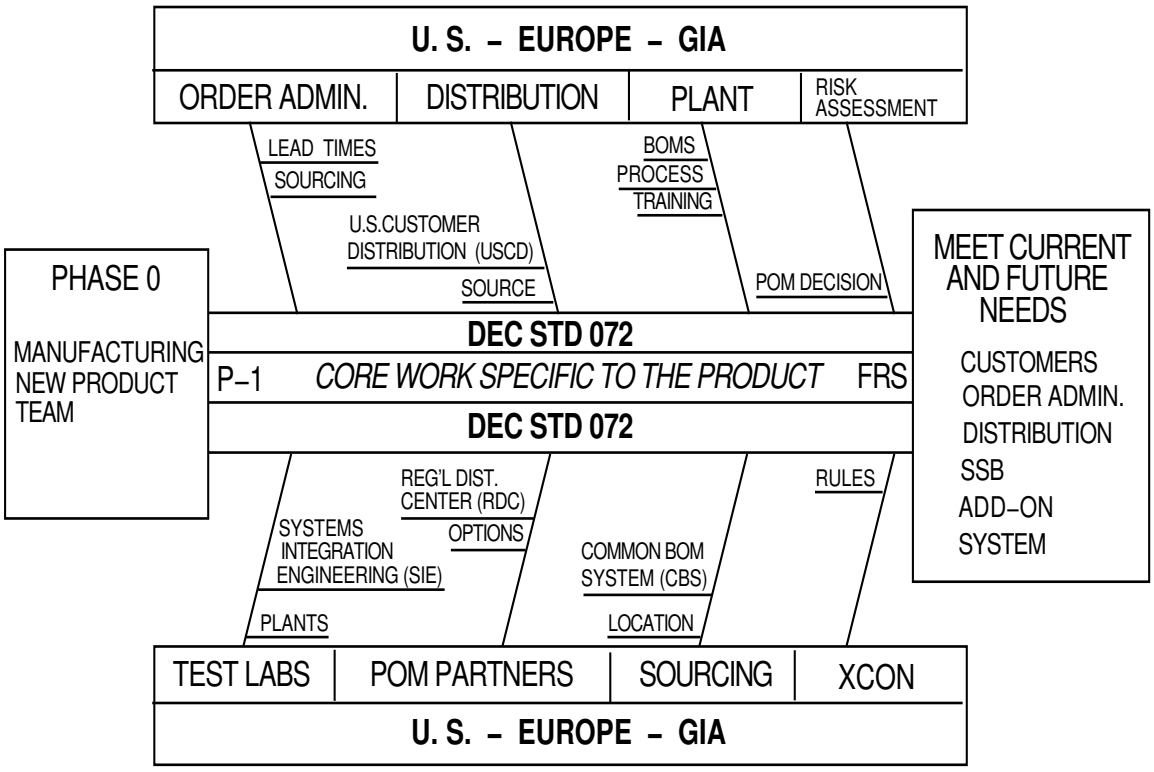
Frank McCabe
Vice President
Quality and Process Technology

# 1 INTRODUCTION

This standard is a New Product Support process that complements *DEC STD 028-0 Phase Review Policy*. *DEC STD 072-0 Corporate POM (Point of Manufacture) Requirements* provides criteria to verify a product's cross-functional readiness and capability to be processed and delivered to the Corporation's external customers for the duration of the product's life. See Figure 1.

Hardware and software products must be designed and manufactured to meet Point of Manufacture (POM) criteria. DEC STD 072 verification leads to POM qualification. Verifying DEC STD 072 criteria allows the Manufacturing New Product Team and the support functions to identify potential product risks. POM qualification must be achieved by First Revenue Ship (FRS) or First Volume Ship (FVS), whichever comes first.

**Figure 1: Robust Product Introduction**



Failure to comply with DEC STD 072 may:

- Increase total product cost.
- Increase the time required before volume-shipping can begin.
- Have a negative effect on customer satisfaction.

Failure to comply with DEC STD 072-0 will delay the product's ability to achieve POM qualification prior to FRS.

**NOTE**

**The total product cost extends from the costs of selling, order processing, manufacturing, delivery, and installation. To reduce cost in one area while increasing cost in another area may result in a higher total product cost.**

## 1.1 PURPOSE

This document defines the criteria needed for the Manufacturing New Product Teams to achieve POM qualification. The criteria are defined by start and completion phase and specific completion criteria by line item. The document also supplies reference information to help understand the various functions, operations, and requirements relating to achieving and maintaining POM qualification throughout the product's life.

## 1.2 SCOPE

This standard applies to all product introduction efforts and is to be used by the Manufacturing New Product Team and individuals within Digital that support POM qualification during the new product introduction cycle. This standard is a requirement for all hardware and software products, including upgrades, add-ons, buyouts, and systems marketed by Digital.

## 1.3 DEFINITION OF POM

POM is the process used by Manufacturing during the introduction of a new product to ensure that the product can meet or exceed customer satisfaction requirements throughout the product's life, and that it has the ability to integrate with the customer's system environment.

Attributes of a POM product are:

- High quality
- Ease of ordering
- Ease of manufacturing
- Ease of delivery
- Ease of installation
- Compatibility with other Digital marketed products
- Supports corporate customer satisfaction goals

### 1.3.1 POM Product Principles

POM product principles are the result of customer satisfaction issues that, when applied, reduce total product cost. The New Product Team shall use these principles to validate new products in Phase 1.

- Part variations (option/system/solution) are identified. If the installation hardware cannot be packaged with the unit, a kit must be created and assigned a part number. Examples are hardware support kits, controllers, country kits, internal cabinets to bulkhead connectors, and cabinet kits.
- Free-standing cabinets and options must be designed to plug into other cabinets without redressing internal cables during installation. Bulkhead-to-bulkhead connections are required.
- All products must be considered finished products at the POM product plant. For example, cabinets and documentation are included, and repacking is not required to ship to customer sites, distribution centers, or other manufacturing sites.
- Each option product shall be packaged for direct shipment to a customer in support of *plug and play*. Refer to *DEC STD 041-0 Customer Installability: Product Requirements*.
- Unless specifically ordered by the customer as a spare option, all options that can be embedded within the product must be installed during manufacturing.
- Embedded options and interfaces (such as cables and modules) must have a documented and verified integration procedure.
- All weights and dimensions, and shipping weights and dimensions for all products must be available to Sales, Customer Service, and customers.
- All products must be verified for their ability to integrate at all levels.
- All previous product and customer problems and feedback have been addressed.
- The part number ordered by the customer is equal to the part number received by the customer.
- The product shall arrive at the customer site in problem-free condition and be installed in the shortest time possible.
- Products shall always be perceived as coming from Digital, and not from different manufacturing sites. Packaging, labelling, hardware, and software shall be complete.
- All documentation for internal and external customers must be consistent for all products and systems, especially within product families. Rules must be clear to ensure customers can order products and systems correctly and completely.

## 1.4 RESPONSIBILITIES

This section describes the responsibilities of the groups involved in DEC STD 072 verification.

**NOTE**

**Contact your plant POM Focus or contact the Manufacturing POM Program Office for clarification. Refer to VTX ELF for location information for David F. Sullivan and Wayne Wilcox.**

### 1.4.1 New Product Team Responsibility

Due to the number and complexity of new products, each New Product Team has the responsibility to assure the Corporation that their product (such as option, CPU, or software) is POM qualified. Detailed POM qualification scenarios are outlined in EL-MF072-00, *Point of Manufacture (POM) Communications and Operations Guide*.

### 1.4.2 Manufacturing New Product Team

Representatives on the Manufacturing New Product Team are responsible for ensuring DEC STD 072 criteria are integrated with the new product schedule, business plan, and manufacturing plan. This team shall make sure that resources are assigned and that POM Qualification is achieved. Refer to EL-MF072-00 for more information.

### 1.4.3 Quality and Customer Satisfaction Groups

The Quality and Customer Satisfaction Organizations are responsible for ensuring that new products meet specified quality and reliability goals, and ongoing POM compliance. Also see subhead 7.3.

### 1.4.4 Implementation Responsibility

At the first Manufacturing New Product Team meeting, the Product POM Focus person must be identified to verify the completion of each checklist item in DEC STD 072 (see EL-MF072-00 for details). The Product POM Focus is responsible for fulfilling the tasks outlined in EL-MF072-00.

The following statements are intended to guide the Manufacturing New Product Team and the Product POM Focus in determining where and with whom the responsibility lies for the completion of the checklist.

- Identify the function within a plant or group responsible for each item on the checklist, and obtain agreement from the plant or group that has responsibility.
- Once a function is identified, a person within that function (who has direct responsibility for doing the work or verifying its completion) shall have his or her name listed on the checklist as being responsible for that work. (This person's name is the one listed as the Responsible Person on each line item of the POM checklist.)
- For items on the checklist for which the responsibility is outside of the plant or group (such as Order Administration, Distribution Review, or DEC STD 072 technical verification), the Product POM Focus is responsible for working with the appropriate 5×5 member to obtain the names of the person or persons directly responsible for completing the specific line item.

# 2 POM GOALS AND BENEFITS

DEC STD 072 goals are to:

- Ensure the capability of a product to be processed and delivered to a customer.
- Achieve problem free installation from a technical, sales, and administrative perspective.
- Achieve zero or low risk at FRS.
- Minimize field assembly and test.
- Ensure that operational expertise from all support functions is available to the New Product Teams beginning with Phase 1.
- Achieve product family consistency whether manufactured by Digital or an external supplier.
- Maintain ongoing POM compliance.

The benefits of DEC STD 072 are to:

- Minimize installation costs.
- Minimize the total product cost.
- Improve accounts receivable flow.
- Prevent recurrences of systemic problems.
- Support customer satisfaction for the life cycle of the product.

## 2.1 CUSTOMER SATISFACTION

There are two customers that all New Product Teams must consider: the external and the internal customer. The external customer orders products for his or her business.

The internal customers for all new products are the support functions inside Digital, such as Order Administration, Distribution and Transportation, DECdirect, Materials, Customer Service, and Sales. The people within these functions are experts in their functions, and each function within Digital understands the external customers' needs and frustrations relating to their function. Although a business plan may address the concepts that support a product, these people are the experts in every concept's implementation; DEC STD 072 is a tool to ensure internal customer satisfaction.

### 2.2 DEC STD 072 MEASUREMENT CRITERIA

The following criteria measure how well DEC STD 072 is adhered to and implemented by the Manufacturing New Product Team.

**Implementation criteria:**

- POM Plan written in Phase 1
- POM checklist line items addressed at specified time
- POM checklist completed at FRS
- Risk assessment completed
- Containment plans enacted for all risks identified
- Establish ongoing POM compliance process

**Success criteria:**

The measurements of the success of the New Product Team and the Manufacturing New Product Team in delivering a POM product is measured after FRS with the following criteria.

- General adherence to DEC STD 072 principles
- Ease of installation with Digital and non Digital marketed products
- Customer satisfaction

*There shall be no:*

Errors in customer configuration
Errors in the Sales documentation
Errors in Order Processing that result in manual intervention
Errors in Manufacturing caused by material or process problems
Errors in the Distribution system caused by inaccurate or incomplete information supplied in the Distribution Plan
Excessive total product cost due to these problems

## 3 DEC STD 072 POM CHECKLIST

The checklist in Figure 2 is to be used as a *guide* through the POM criteria. Table 1 in subhead 3.1 lists the information to determine when a checklist item is complete. All items are not applicable to all products; for example, a POM checklist for an option will be different from one for a CPU. The Manufacturing New Product Team with the Product POM Focus will determine those items that pertain to their product.

The phase start (S) and phase complete (C) listed on the checklist are the recommended phases in which that activity should be started or completed to successfully achieve DEC STD 072 qualification before FRS.

**NOTE**

**Items determined to be not applicable (NA) must have a brief explanation documenting the reason for this decision in the POM Plan.**

## Figure 2: POM Qualification Checklist

**NOTE**

**The changing environment makes it necessary to add, change, or delete item(s) to the checklist. These revisions will be done with the acceptance of the POM Forum. Therefore, contact the POM Program Office for the latest checklist revision.**

DEC STD 072 QUALIFICATION CHECKLIST

This checklist, complete with all items, even those items determined not appropriate and with the reasons for not including the item(s), must be included in the Manufacturing Plan.

Phase S and Phase C correspond to Phase Start and Phase Complete.

PRODUCT: DATE:
ANNOUNCEMENT DATE: FRS DATE:

| REQUIREMENTS | PHASE S | PHASE C | RESPONSIBLE PERSON | DATE COMMITTED | DATE COMPLETED |
|---|---|---|---|---|---|
| **PRODUCT MANAGEMENT CRITERIA** | | | | | |
| Supported Options | 1 | 1 | | | |
| Applications Software | 1 | 3 | | | |
| **MANUFACTURING CRITERIA** | | | | | |
| Material Sourcing | 0 | 3 | | | |
| Manuals Reviewed/Approved | 1 | 2 | | | |
| Country Kits Strategy | 1 | 3 | | | |
| Major Source Code | 1 | 3 | | | |
| New Product Summary | 1 | 3 | | | |
| Manufacturing Plan | 1 | 3 | | | |
| BOMs | 1 | 3 | | | |

PRODUCT: DATE:
ANNOUNCEMENT DATE: FRS DATE:

| REQUIREMENTS | PHASE S | PHASE C | RESPONSIBLE PERSON | DATE COMMITTED | DATE COMPLETED |
|---|---|---|---|---|---|
| MANUFACTURING CRITERIA (cont.) | | | | | |
| Standard Cost | 2 | 3 | | | |
| Plant Material Review | 3 | 3 | | | |
| FIS (Factory Installed Software) | 0 | 3 | | | |
| Operating Systems Software | 1 | 3 | | | |
| Process Verification | 1 | 3 | | | |
| Country Kits Available | 1 | 3 | | | |
| User Audit Plan | 1 | 3 | | | |
| Ongoing Reliability Test/ Ongoing Reliability Demo. (ORT/ORD) Plan | 1 | 3 | | | |
| Waivers | 1 | 3 | | | |
| POM Partner Products | 1 | 3 | | | |
| Process Procedure | 1 | 3 | | | |
| Continuous Improvement Agreements | 1 | 3 | | | |
| Infancy Assessment | 2 | 3 | | | |
| Traceability | 2 | 3 | | | |
| DEC STD 178-08 | 2 | 3 | | | |
| Manufacturing Plan Implemented | 3 | 3 | | | |
| Manuals Available | 3 | 3 | | | |
| Ongoing POM Compliance Plan | 3 | 3 | | | |

PRODUCT: DATE:
ANNOUNCEMENT DATE: FRS DATE:

| REQUIREMENTS | PHASE S | PHASE C | RESPONSIBLE PERSON | DATE COMMITTED | DATE COMPLETED |
|---|---|---|---|---|---|
| ENGINEERING CRITERIA | | | | | |
| Product Engineering Specs DEC STD 009-1 | 0 | 3 | | | |
| Product MTBF Spec | 1 | 2 | | | |
| DEC STD Testing | 1 | 3 | | | |
| Design Verification Test (DVT) | 1 | 3 | | | |
| Preliminary Change Authorization (PCA) Control | 2 | 3 | | | |
| Revision Matrix Document | 2 | 3 | | | |
| Cluster Revision Matrix Document | 2 | 3 | | | |
| XCON/XSEL | 2 | 3 | | | |
| Kit Part Lists (KPL) | 1 | 3 | | | |
| DSA (Design Stress Analysis) | 1 | 3 | | | |
| Packaging Specified/Qualified | 1 | 3 | | | |
| Human Factors Testing | 1 | 3 | | | |
| Reliability Qualification | 1 | 3 | | | |
| Component Qualification | 1 | 3 | | | |
| Product Labeling | 1 | 3 | | | |
| Agency Approval Documentation | 2 | 3 | | | |
| Diagnostic Software | 2 | 3 | | | |
| Product Under ECO Control | 3 | 3 | | | |
| Internal Field Test | 3 | 3 | | | |
| External Field Test | 3 | 3 | | | |

PRODUCT: DATE:
ANNOUNCEMENT DATE: FRS DATE:

| REQUIREMENTS | PHASE S | PHASE C | RESPONSIBLE PERSON | DATE COMMITTED | DATE COMPLETED |
|---|---|---|---|---|---|
| **ORDER ADMINISTRATION CRITERIA** | | | | | |
| O/A REVIEW | 3 | 3 | | | |
| Sales Activity Code (SAC) | 3 | 3 | | | |
| **DISTRIBUTION CRITERIA** | | | | | |
| Distribution Plan | 1 | 3 | | | |
| Common BOM System (CBS) | 3 | | | | |
| U. S. Customer Distribution (USCD) Supplier Request/Commit | 3 | 3 | | | |
| Lead Time/Availability/Service Level | 3 | 3 | | | |
| Common Scheduling Sourcing Tables | 3 | 3 | | | |
| **TECHNICAL EVALUATION CRITERIA** | | | | | |
| DEC STD 072 Technical Verification Milestone Rqts. | 1 | 1 | | | |
| DEC STD 072 Technical Verification | 1 | 3 | | | |
| Risk Assessment | 3 | 3 | | | |
| **CUSTOMER SERVICE READINESS CRITERIA** | | | | | |
| XSITE Environmental Data | 3 | 3 | | | |
| XSITE Weights and Dimension Data | 3 | 3 | | | |
| CSSE Readiness Acknowledgement | 3 | 3 | | | |

### 3.1 COMPLETION CRITERIA FOR DEC STD 072 CHECKLIST

Table 1 shows the completion criteria to be used with Figure 2, POM Qualification Checklist.

**Table 1: DEC STD 072 Qualification Completion Criteria**

| Step | Phase Start | Phase Complete | Completion Description | Owner |
|---|---|---|---|---|
| | | PRODUCT MANUFACTURING CRITERIA | | |
| Supported Options | 1 | 1 | All supported embedded and nonembedded (standalone) options identified and included in the product's business plan | Manufacturing New Product Team |
| Applications Software | 1 | 3 (FVS/FRS) | Planned, supported applications software at the correct revision level available for distribution per product's business plan | Product Manager |
| | | Manufacturing Criteria | | |
| Material Sourcing Defined | 0 | 3 (Announce) | Material sourcing and lead times have been identified. No material availability issues open which will impact product build. | Materials, on the Manufacturing New Product team |
| Manuals Reviewed /Approved | 1 | 2 | All hardware and software user documentation reviewed and approved by Manufacturing, for example: Installation Guide, Maintenance Manual, and User Guide | POM Focus |
| Country Kit Strategy Defined | 1 | 3 (Announce) | Country Kits have been defined. | Manufacturing New Product Team |
| Major Source Code | 1 | 3 (Announce) | For the finish goods products, the major Source plant code and stockroom is on APPIX | Manufacturing New Product Team |
| New Product Summary | 1 | 3 (Announce) | The product listed on the New Product Summary list contains all of the required data for that product. | Plant POM Focus |
| Manufacturing Plan | 1 | 3 (Announce) | The product's Final Manufacturing Plan has been written and signed off. | Manufacturing New Product Team |
| BOMs | 1 | 3 (Announce) | All Manufacturing Bills of Materials (BOMs) for both software and hardware have been verified for accuracy by the appropriate function and added to or updated on APPIX. | Plant Manufacturing Engineering |
| Standard Cost | 2 | 3 (Announce) | Standard costs established and entered into the appropriate Manufacturing Systems. | Plant Finance |

**Table 1 (Cont.): DEC STD 072 Qualification Completion Criteria**

| Step | Phase Start | Phase Complete | Completion Description | Owner |
|---|---|---|---|---|
| | | | Manufacturing Criteria | |
| Plant Material Review | 3 | 3 (FVS/FRS) | The Plant Material review has been completed. All action items, owners, and closure dates have been identified. Reference documentation: EL-MF356-08 *Materials Engineering Domain Phase Review Guidelines* | Plant Materials |
| FIS (Factory Installed Software) | 0 | 3 (FVS/FRS) | For those products with FIS, the product-producing plant must have established a communications link and a control mechanism with SSB that will ensure the SSB software version matches the version loaded on the system. | Plant Manufacturing Engineering |
| Operating Systems Software | 1 | 3 (FVS/FRS) | Complete when all operating systems software is available at the revision level required to support the product and ready for distribution through SSB. For example, VMS, ULTRIX, host software, and so forth. | Product Manager/POM Focus |
| Process Verification | 1 | 3 (FVS/FRS) | Ensure process verification and demonstration of process impact on product reliability are started prior to FVS/FRS (for example, Process Verification Test (PVT), Ongoing Process Improvement (OPI)). All action items are closed and/or the responsible person has been assigned with a closure date. | Plant Quality Engineering |
| Country Kits Available | 1 | 3 (FVS/FRS) | Country Kits are available for worldwide distribution. | Materials, on the Manufacturing New Product Team |
| User Audit Plan | 1 | 3 (FVS/FRS) | The product's user audit plan is signed off and implemented. The purpose of user audit is to identify potential and/or process-induced defects that could impact the customer. | Plant Quality Engineering |
| ORT/ORD Plan | 1 | 3 (FVS/FRS) | Complete when the product's Ongoing Reliability Test (ORT)/Ongoing Reliability Demonstration (ORD) plan is signed off and implemented. | Plant Quality Engineering |
| Waivers | 1 | 3 (FVS/FRS) | All waivers have been identified and must have a Directly Responsible Individual (DRI), a resolution statement, and a closure date. This includes any internal and external waivers. | Waiver Owner/POM Focus |
| POM Partner Products | 1 | 3 (FVS/FRS) | All options, embedded and nonembedded, standalone, or expander cabs, must be POM qualified at the device and system level. | POM Focus /POM Partner Plant |

**Table 1 (Cont.): DEC STD 072 Qualification Completion Criteria**

| Step | Phase Start | Phase Complete | Completion Description | Owner |
|---|---|---|---|---|
| | | | Manufacturing Criteria | |
| Process Procedure | 1 | 3 (FVS/FRS) | Complete when all manufacturing process documentation is signed off and under documentation control. Manufacturing process documentation shall include all Stage 0, Stage 1, Stage 2, Stage 3, and any special processes used to complete the manufacturing cycle. This includes FIS procedures that must be in place and verified for functionality. Manufacturing processes must incorporate ESD awareness.<br>Reference document:<br>EL-MF409-00 *Awareness and Prevention of Electrostatic Discharge*. | Plant Manufacturing Engineering |
| Continuous Improvement Agreements | 1 | 3 (FVS/FRS) | Acceptance criteria is defined within the Continuous Improvement Agreements and is signed off between the supplier and the plant for all components and subassemblies that do not meet the established goals. For all systems, software, and options, the Continuous Improvement Agreement (PFI number) is documented in the Product's Customer Satisfaction Plan. | Component Engineering /Vendor Engineering |
| Infancy Assessment | 2 | 3 (FVS/FRS) | Infancy removal run time (burn-in) has been established and included in the manufacturing process. | Plant Quality Engineering |
| Traceability | 2 | 3 (FVS/FRS) | Product under plant traceability control (system).<br>Reference documentation:<br>*DEC STD 131-0 Traceability Policy*<br>*DEC STD 131-1 Controlled Components* | Plant Quality Engineering |
| DEC STD 178-8 | 2 | 3 (FVS/FRS) | All shipping documentation and container labeling requirements for finished goods are compliant with DEC STD 178-8<br>Reference documentation:<br>*DEC STD 178-8 General Shipping Documentation and Container Labeling Requirements for Finished Goods Intended to be Shipped to Customers* | Plant Manufacturing Engineering |
| Manufacturing Plan Implemented | 3 | 3 (FVS/FRS) | Complete when the product's manufacturing plan, up to POM Qualification, has been implemented and tested for compliance. | Manufacturing New Product Team |

**Table 1 (Cont.): DEC STD 072 Qualification Completion Criteria**

| Step | Phase Start | Phase Complete | Completion Description | Owner |
|---|---|---|---|---|
| | | | Manufacturing Criteria | |
| Manuals Available | 3 | 3 (FVS/FRS) | All hardware and software user documentation is of revenue quality and available for distribution; for example: the Installation Guide, Maintenance Manual, and the User Guide. | Materials, on the Manufacturing New Product Team |
| Ongoing POM Compliance Plan | 3 | 3 (FVS/FRA) | A plan shall be written to meet the requirements of section 7.3 of this standard. This plan is complete when all items in section 7.3 are documented and committed to. | Manufacturing New Product Team |

**Table 1 (Cont.): DEC STD 072 Qualification Completion Criteria**

| Step | Phase Start | Phase Complete | Completion Description | Owner |
|---|---|---|---|---|
| | | | Engineering Criteria | |
| Product Engineering Specifications | 0 | 3 (Announce) | Product engineering specifications are signed off, available, and verified for compliance. Reference documentation: *DEC STD 009-1 Product Engineering Specifications: Electrical, Physical, and Environmental Parameters* | Design Engineering |
| Product MTBF Specification | 1 | 2 | CSSE, Design Engineering, and Manufacturing have reached agreement on the products MTBF specification. | Design Engineering |
| DEC STD Testing | 1 | 3 (Announce) | All regulatory agencies and Digital design verification tests are completed and a final test report is available; including environmental, EMC, and acoustics. Reference documentation: *DEC STD 102-0 Environmental Standard for Computers and Peripherals - General Test Requirements*, *DEC STD 103-0 Electromagnetic Compatibility (EMC) - Overview and Process Requirements*, *DEC STD 104-0 Product Acoustic Noise Limits*, *DEC STD 119-0 Digital Product Safety - Introduction and General Requirements* | Design Engineering |
| DVT | 1 | 3 (Announce) | DVT is successfully completed and a final report is published. | Design Engineering |
| Product Under Preliminary Change Authorization (PCA) Control | 2 | 3 (Announce) | Verify that all the parts lists and applicable drawings are under PCA control. NOTE: The plant Documentation Control is not involved at this time. | Design Engineering |

**Table 1 (Cont.): DEC STD 072 Qualification Completion Criteria**

| Step | Phase Start | Phase Complete | Completion Description | Owner |
|---|---|---|---|---|
| | | | Engineering Criteria | |
| Revision Matrix Document | 2 | 3 (Announce) | Complete when the product/system revision matrix document has been updated and is released for distribution. Reference documentation: *DEC STD 068-0 Policy for Documentation of Revision Levels of Units and Combinations of Units* | Design Engineering |
| Cluster Revision Matrix | 2 | 3 (Announce) | Cluster Revision Matrix document has been updated. This activity is worked through the Cluster Verification Group (CVG) located at NIO. | Design Engineering |
| XCON/XSEL | 2 | 3 (Announce) | Verify XCON configuration rules and printout are in place and are accurate. | Design Engineering |
| KPL | 1 | 3 (FVS/FRS) | Final KPLs are signed off, verified, and available to CBS and Manufacturing. Preliminary KPLs must be available by announcement. | Design Engineering |

**Table 1 (Cont.): DEC STD 072 Qualification Completion Criteria**

| Step | Phase Start | Phase Complete | Completion Description | Owner |
|---|---|---|---|---|
| | | | Engineering Criteria | |
| DSA (Design Stress Analysis) | 1 | 3 (FVS/FRS) | DSA has been performed according to the DSA plan. | Design Engineering |
| Packaging Specified/Qualified | 1 | 3 (FVS/FRS) | Packaging specifications are identified, qualified, signed off, and added to the BOM. This specification should include all the packaging required for the BOMs associated with a line item that can be ordered. | Design Engineering |
| Human Factors Testing | 1 | 3 (FVS/FRS) | Human Factors testing completed according to the Human Factors plan and a final report has been generated. Reference document: *DEC STD 105-0 Display Work Station Ergonomics (Human Factors): Design Criteria* | Design Engineering |
| Reliability Qualification | 1 | 3 (FVS/FRS) | Reliability Qualification Test (RQT) complete when design reliability has been demonstrated according to the product's Reliability Qualification Plan and a final report has been generated. | Design Engineering |
| Component Qualification | 1 | 3 (FVS/FRS) | All components and subassemblies are qualified and are on the QVL with qualified sources identified, or properly approved waivers according to DEC STD 066. Reference documentation: *DEC STD 066-0 Digital Design Standards*. | Design Engineering |

**Table 1 (Cont.): DEC STD 072 Qualification Completion Criteria**

| Step | Phase Start | Phase Complete | Completion Description | Owner |
|---|---|---|---|---|
| | | | Engineering Criteria | |
| Product Labeling | 1 | 3 (FVS/FRS) | Complete when the product is in compliance with the Digital standards listed below.<br>Reference documentation:<br>*DEC STD 12-0 Part Identification Standard*,<br>*DEC STD 030-0 Module Manufacturing Standard - General Producibility Requirements*,<br>*DEC STD 047-0 Bar Code Symbology*<br>*DEC STD 047-1 Bar Code: Product and Shipping Carton/Container Labelling*<br>*DEC STD 060-0 Design of Hardware Products to National and International Regulations and Standards, Policies and Procedures*<br>*DEC STD 178-0 Digital Identification Marking Requirements - Introduction*<br>*DEC STD 178-1 Digital Marking Requirements for Piece Parts*<br>*DEC STD 178-2 Digital Marking Requirements for Subassemblies: Field Replaceable Units (FRU) and Non-Field Replaceable Units*<br>*DEC STD 178-3 Digital Marking Requirements for Completed Products Intended to Be Sold*<br>*DEC STD 178-6 Marking and Labeling Requirements for Diagnostic Tools and Diagnostic Software*<br>*DEC STD 178-7 Translations* | Design Engineering |
| Agency Approval Documentation | 2 | 3 (FVS/FRS) | The follow-up service procedure must be in the Plant (U.L. requirement), and the Certificate of Design Compliance must be in the Plant (CSA requirement). | Design Engineering |
| Diagnostic Software | 2 | 3 (FVS/FRS) | Diagnostic software must be available and able to support the Manufacturing process as well as Customer Services. | Design Engineering |
| Product Under ECO Control | 3 | 3 (FVS/FRS) | The product and all line items of the product's parts list are under ECO control. | Design Engineering |
| Internal Field Tests | 3 | 3 (FVS/FRS) | All Quality Assurance Reports (QAR) have been closed and all others have been addressed with DRIs, action plans, and closure dates assigned. | Design Engineering |
| External Field Tests | 3 | 3 (FVS/FRS) | All QARs have been closed and all others have been addressed with DRIs, action plans, and closure dates assigned. | Design Engineering |

**Table 1 (Cont.): DEC STD 072 Qualification Completion Criteria**

| Step | Phase Start | Phase Complete | Completion Description | Owner |
|---|---|---|---|---|
| | | Order Administration Criteria | | |
| OA Review | 3 | 3 (FVS/FRS) | An OA readiness review has been successfully completed for all products prior to FRS. All action items, owners and closure dates have been identified See EL-MF356-05, *Manufacturing Order Administration Phase Review Process Guidelines*. | USBC New Products Group |
| SAC Code | 3 | 3 (FVS/FRS) | Contact to the DSPS office has been made to change the SAC from a noncosted code to a costed code; for example: from a Q to a B code, or any other valid costed SAC. (See Appendix A for a more detailed explanation) | Product Manager |
| | | Distribution Criteria | | |
| Distribution Plan | 1 | 3 (Announce) | Distribution plan has been published and has been agreed to by USCD. | Manufacturing New Product Team |
| Common BOM System (CBS) | 1 | 3 (Announce) | The CBS group within the USBC has updated the system to reflect the latest KPLs for shippable product levels. NOTE: Preliminary KPLs are acceptable for announcement. | POM Focus |
| USCD/Supplier Request/Commit | 3 | 3 (Announce) | Make to Stock (MTS) only. A Request /Commit process between USCD and the supplier is in place. This pertains to RDCs only. | Plant Materials |
| Lead Time /Availability /Service Level | 3 | 3 (Announce) | (MTS only) Lead times and availability of the finish goods products has been communicated from the supplier to USCD Materials. Service levels (Flexibility statement) have been reached between the supplier and USCD Materials. | Plant Materials |
| Common Scheduling Sourcing Tables | 3 | 3 (FVS/FRS) | Ship location of the product has been updated on Common Scheduling to support both system and option add-on orders. For option add-on orders, USCD has been contacted to update the Common Scheduling sourcing tables. | POM O/A |

**Table 1 (Cont.): DEC STD 072 Qualification Completion Criteria**

| Step | Phase Start | Phase Complete | Completion Description | Owner |
|---|---|---|---|---|
| | | Technical Evaluation Criteria | | |
| DEC STD 072 Technical Verification Milestone Requirements | 1 | 1 | DEC STD 072 Technical Verification milestone requirements have been agreed upon by the product producing plant and SIE. | Manufacturing New Product Team |
| DEC STD 072 Technical Verification | 1 | 3 (FVS/FRS) | Complete when all requirements appearing in the DEC STD 072 Technical Verification Methodology document have been satisfied. | Manufacturing New Product Team |
| Risk Assessment | 3 | 3 (FVS/FRS) | DEC STD 072 Technical Verification completed, results published, and all action items are closed. If testing is not complete, a report has been issued to the MSPM, Product Manager, and Quality. All risks identified shall have a containment process to prevent them from reaching the customer. Each risk shall have a person assigned and a date committed to close the risk. | Technical Verification Owner(s) |
| | | Customer Service Readiness Criteria | | |
| XSITE Environmental Data | 3 | 3 (Announce) | Verification that all of the product's environmental and electrical information is accurate and on the XSITE data base. | Product CSSE |
| XSITE Weights and Dimension Data | 3 | 3 (Announce) | Verification that the shipping weights and dimension are on the XSITE data base. | Product CSSE |
| CSSE Readiness Acknowledgement | 3 | 3 (FVS/FRS) | All CSSE milestones completed and implemented (that is, logistics, training, and so on). A readiness review has been held. All actions items, owners, and closure dates have been identified. Any open issues by FRS will be presented at the POM decision meeting. Containment processes will be implemented for those issues that require containment. | Product CSSE/POM Focus |

## 4 ORDER PROCESSING

Field Order Management Services, DECdirect, Digital's Electronic Store, and Electronic Data Interchange (EDI) are the ordering channels within Digital. In the planning and developing stages of the product or service, proper consideration and action should be made that will permit product or service be managed and sold through these channels. Details on these ordering channels are located in Appendix A.

## 5 DISTRIBUTION

The development and completion of the product distribution plan is a major factor in DEC STD 072 qualification. The plan should be completed at least 6 months prior to FRS and the Siting and Sourcing Forum should be notified at that time for product analysis.

The distribution plan outline (Appendix B) shows the information required to make the best siting and sourcing decision. The siting and sourcing process applies rules and procedures to determine the optimum site and source to minimize Digital's order fulfillment and distribution costs, and to maximize customer service for all orders fulfilled in the U.S.

It is important that all **new products** plans be submitted to the Siting and Sourcing Forum. The Forum, which consists of USCD operational and functional members, communicates with all PBU distribution managers, and can make the best decisions about distribution source siting. The new product contact person for the Siting and Sourcing Forum is Wayne DuPont; see VTX ELF for location information.

# 6 DEC STD 072 TECHNICAL VERIFICATION

This section describes the relationship of the plan to its owners.

## 6.1 STRATEGIC OWNERSHIP

The central verification group, Systems Integration Engineering (SIE), is the strategic owner of tools, data, and methodologies, and is responsible for the following:

- Maintaining a customer environment that reflects the current system and solutions needs.

  **NOTE**

  **A customer environment is one that reflects a high representation of the customer base. This environment shall include hardware, operating systems, and software application interaction.**

- Maintaining EL-MF072-01, *Technical Verification Methodology for POM Qualification, proposed*
- Developing and maintaining the test plan format
- Maintaining and managing a centralized data base of all Technical Verification Methodology tests and results. The purpose of this data base is to:

  Eliminate duplicate testing
  Manage data for all identified problems and their resolutions
  Identify systemic problems
  Identify system integration issues at a totally interactive environment level
  Provide DEC STD 072 test traceability at a product and system level
  Provide historical test configuration and compatibility issues to help identify potential problems and solutions

- Communicating systemic problems to all appropriate groups, to enable prevention of these problems on future products.

## 6.2 IMPLEMENTATION (TACTICAL) OWNERSHIP

The product plant is the implementation, or tactical, owner and is responsible for the following.

- Developing and implementing the Technical Verification plan according to the Technical Verification Methodology
- Ensuring the products are tested in a customer environment which reflects the current systems and solutions needs
- Ensuring that products are tested at all required levels of configurations
- Input the Technical Verification Methodology tests and results into the centralized database (see section 6.1)

- Closing all problems on the centralized database within the agreed time period as specified by the Manufacturing New Product Team
- Reporting the final results of DEC STD 072 technical verification testing to the Manufacturing New Product Team, New Product Team, and effected POM Partners
- Support the SIE customer environment product needs.

### 6.3 DEC STD 072 TECHNICAL VERIFICATION PLAN

DEC STD 072-0 requires that the product plant develop a technical verification plan at the beginning of phase one. The plan shall address and describe all the tasks specified in EL-MF072-01, *Technical Verification Methodology, proposed*.

SIE is a resource to the product plants to facilitate test planning and execution of the Technical Verification Plan. There may be products that do not require SIE involvement, and for this situation, the plant and SIE shall develop an agreement about how the DEC STD 072 verification will be performed for that product.

If there are objections to the plan, those issues must be elevated to the Manufacturing New Product Team for resolution.

The plan shall define the following implementation areas of the Technical Verification Methodology.

- The tests to be included in the Plant POM Verification, and the tests that shall be part of the System Assurance Verification (see Table 2).
- The tests to be performed by SIE.
- The tests to be completed by FRS or FVS.
- The tests that may be completed after FRS (and with specific completion dates).
- The revision of hardware, software, and diagnostics that shall be available in the scheduled time frame.
- The tests to be performed during ongoing POM compliance testing.

**Table 2: Technical Verication**

| Plant POM | System Assurance |
|---|---|
| Preliminary documentation review | Operating system installation and use |
| XCON and Sales information | Option add-ons |
| Revision check | Large configuration systems interaction |
| Packaging/VMI check | System level testing |
| Hardware installation, documentation evaluation | Exception testing |
| Installation verification | Cluster and network testing |
| Operating system installation | Ongoing systems assurance testing |
| | Applications testing |
| | Value engineering testing |
| | Product transfer testing |

# 7 POM QUALIFICATION

Heading 7.1 describes the decision process to determine whether a product that has completed DEC STD 072 verification should be POM qualified.

Heading 7.2 describes specific considerations used in this decision.

## 7.1 POM DECISION

A POM decision meeting must be conducted prior to the product's FRS (Phase 3 exit review). The meeting guidelines are also contained in EL-MF072-00 and in the following headings. Once a decision to declare a product POM qualified is reached, the Product POM Focus will complete the POM Decision form (Figure 3) and distribute it to the New Product team (5×5), Manufacturing New Product Team, POM Program Office, SIE, and others with the need to know.

**NOTE**

**Contact the POM Program Office for electronic copies of this form.**

The POM decision meeting may result in the following outcomes, as presented to the plant staff and the Product 5×5 by the Manufacturing New Product Team.

- Decision to POM Qualify. In this case, the product may be added to the POM menu and be shipped without restriction.
- Decision to conditionally POM Qualify the product (see subhead 7.1.1). In this case, the product must have appropriate containment processes in place.

  All risks will have a containment process, an assigned responsible person, and a committed date by which to close the risk to prevent the risk from reaching the customer. The Product POM Focus will make a recommendation to the Manufacturing New Product Team based on existing information.
- Decision to waiver. In this case, the product may require a waiver against DEC STD 072 until the issue(s) have been resolved. The Manufacturing New Product Team is responsible for ensuring all issues are resolved. Plant staff and the Product 5×5 will be informed of this decision.

**BE AWARE THAT:**

- **A decision to POM Qualify (or conditionally qualify) a product is a decision to recommend the product be shipped.**
- **A decision *not* to POM Qualify a product is a decision *not* to recommend shipment.**

**Figure 3: POM Decision Form**

POM DECISION FORM

Date ___/___/___ Product Name _____ Product Plant _____

Plant POM Rep _____ ENET Contact _____ FRS ___/___/___

POM Decision Team _____

Product Description _____

CPUs product will play on _____

DEC STD 072 Checklist Complete? Y___ N___

Technical Verification Risk Assessment Complete? Y___ N___

Distribution Review Complete? Y___ N___

Prod Plant Review Complete? Y___ N___ O/A Review Complete? Y___ N___

CPU or Expander cabinet Plant Review Complete? Y___ N___

Any Risk ? Y___ N___ Comments: _____

_____

_____

Containment Plans: (attach additional sheets as needed)

_____

_____

General Comments: _____

_____

_____

PRODUCT STATEMENT:

This product (IS / IS NOT) ready at present to be placed on the POM MENU and all applicable Menus. It (HAS / HAS NOT) completed all the POM Goals and Metrics necessary to be considered a POM Product.

**CONDITIONALLY POM QUALIFIED Y___ N___**

COMPLETED BY _____ ENET _____ DATE ___/___/___

ANSWER–MENU OWNER: This product has been added to my MENU.

Name: _____ ENET _____ Date ___/___/___

### 7.1.1 Conditional POM Qualification

A product may obtain conditional POM qualification based upon the risk containment processes developed for the product. Final Assembly and Test (FA&T) is not the required default for a product that does not meet the full DEC STD 072 criteria. Any containment process must have a time frame or quantity limit parameter to correct the problems and a plan to fully POM qualify the product. A product that is shipped with a conditional POM qualification must have another POM decision meeting to ensure all the previously identified product risks have been corrected.

If it is determined that a product is conditionally POM qualified, the Manufacturing New Product team must implement a risk containment process for each risk identified. This information must be recorded on the POM decision form and distributed to the New Product team (5×5), Manufacturing New Product Team, POM Program Office, and all persons with the need to know.

### 7.1.2 Product POM Requalification

A product may need to be POM requalified for the following reasons.

- Value engineering
- Upgrades
- ECO activity

The product plant POM Focus shall determine if the product requires POM requalification. The basis of this decision will be DEC STD 072 criteria and Technical Verification Methodology.

### 7.1.3 DEC STD 072 Waiver Criteria

Any waivers relating to DEC STD 072 criteria or the Technical Verification Methodology will result in a conditional POM qualification. Refer to subhead 7.1.1.

1. DEC STD 072 should be the last consideration for a waiver. The incomplete or non compliant POM checklist line item should be investigated for obtaining a waiver. A waiver of a specific checklist line item will satisfy the intent of DEC STD 072. This waiver must be recorded on the POM decision form.
2. When a checklist line item is not complete or uncovers a product risk, the Manufacturing New Product Team must implement a containment process as outlined in EL-MF072-00. This will satisfy the intent of DEC STD 072 and an additional waiver is not required, provided it is so indicated on the checklist.
3. If the above two conditions cannot be satisfied, then a waiver to DEC STD 072 may be requested. The EL-MF005-00, *Manufacturing Waiver Policy* waiver process must be followed at all times.

### 7.1.4 Record Retention

All documentation relating to DEC STD 072 qualification must be archived by the product plant and also must be forwarded to the POM Program Office for Corporate record retention.

The DEC STD 072 qualification documents are the following.

- Completed DEC STD 072 checklist
- Product risk assessments
- POM Decision Form
- Containment plans
- Product POM plan
- Supporting documents for the above

## 7.2 SPECIFIC CONSIDERATIONS

This subhead describes specific considerations to be used when making a POM decision.

### 7.2.1 Systems

System introductions shall have a POM decision meeting consisting of a review of the DEC STD 072 Checklist, a review of test data, lab tests, prototype tests, and seed unit tests. The Product POM Focus shall chair the meeting and the Manufacturing System Program manager shall attend. The attendance of Design Engineering, CSSE, and SASE representatives is optional. Each person representing the appropriate function shall present information related to DEC STD 072-0.

### 7.2.2 Options

For option introduction, a completed POM Decision Form, POM checklist, and DEC STD 072 Technical Risk Assessment (contained in the Technical Verification Methodology) will be sent to the U. S. Customer Distribution Center (USCD) and the appropriate system(s) POM Focus prior to the product's POM decision meeting. Within three days, the USCD and system(s) POM Focus will respond to the Product POM Focus.

The Product POM Focus will then make a recommendation to the Manufacturing New Product Team based on existing information.

### 7.2.3 Configurable Options

In addition to the guidelines in subhead 7.2.2, special attention must be given to the order administration review and sales documentation. It is critical that the specific configuring information be able to be transmitted to the manufacturing plant.

### 7.2.4 Preconfigured Systems

In addition to the guidelines in subhead 7.2.1, special attention must be given to the order administration and sales documentation. The sales documentation must clearly reflect the problems associated with ordering field-installed options with preconfigured systems, such as added customer cost for field installation.

### 7.2.5 Marketing Product Part Numbers

Marketing products are defined as two or more POM qualified products combined under a specific part number to satisfy a marketing need. This type of product also needs to be POM qualified, although the DEC STD 072 verification activity does not need to be as detailed as for a new product. The POM plant(s) involved with the marketing product must review the DEC STD 072 criteria to determine which areas apply to this product. The plant will conduct a POM decision meeting to review the applicable criteria.

## 7.3 MAINTAINING POM QUALIFICATION

The objective of ongoing POM compliance is to ensure the product will continue to function in the customer environment in which it was designed to operate. The product plant must maintain POM compliance for the duration of the products life; it must maintain compliance as a product and as a system; and it must:

- Continually monitor the following data collection points for trend analysis

  Plant internal data (Ongoing Reliability Testing, and so on)
  Customer data
  Installation data
  Other data that is pertinent to the products' environment

- Commit to react immediately to any problems uncovered by the data and prevent the problems from shipping to the internal or external customers.
- Implement the Corrective Action Request process documented in EL-MF712-00, *Corrective Action Process*
- Work all identified problems through the Corrective Action Process with all effected POM partners
- Comply with the tests documented in the technical verification plan

# 8 PRODUCT TRANSFER VERIFICATION

When a POM product makes a transition from one manufacturing site to another, the original plant and the receiving plant must prepare a transition plan to maintain POM qualification. The DEC STD 072 checklist must be followed in developing a new POM plan for the receiving plant. See Figure 2.

**NOTE**

**A POM decision meeting must be held prior to the receiving plant's FRS date.**

The level of detail to which each checklist milestone is investigated depends on what is being changed due to the transfer. Generally, product transfers necessitate a re-evaluation of the milestones that relate to the process. Some examples are: BOMs, traceability, process procedures, standards, content lists, PVT/PQT (modified due to new build site), user audit, ORT, quality support systems, waiver process, Work-in-Process (WIP) systems, distribution, common scheduling/sourcing document, and SIE verification.

If the actual build of a product is transferred, as opposed to a sourcing change, the new build process will require a process reliability demonstration (PVT/PQT). This demonstration should be co-developed between the transferring plant and the receiving plant. Both the transferring plant and the receiving plant must conduct detailed audits of

the current process and the new build process respectively, to ensure their processes are documented and fully understood.

**NOTE**

**The DEC STD 072 technical verification activity should be developed by the transferring plant, the receiving plant, and SIE. The focus of the problem should be to determine the specific methodologies required to maintain POM Qualification. All transferring inventory must be verified to ensure that it is the latest shippable and buildable revision.**

# APPENDIX A ORDER PROCESSING

## A.1 ORDER ADMINISTRATION (OA)

The following are primary areas of order administration responsibilities.

a. It is increasingly important for Order Administration to focus attention on new products' introductions because of the increasing number of new products and shortened life cycles.

   A full OA review must be conducted prior to first revenue ship (FRS).

   The OA review is a cross-functional team concept. Representatives from Customer Administrative Services (CAS), Area Operations, Technical Edit, Manufacturing, Engineering, and Information Systems form the team to ensure that all order fulfillment systems and organizations are ready for FRS.

   Order Administration criteria consists of a detailed project plan that defines all activities necessary for a successful product launch prior to the announcement and FRS of the product. This checklist, administered by the New Products Order Administration Group, provides for product and process integration and incorporates all major engineering, manufacturing, and administrative milestones. See EL-MF356-05, *Manufacturing Order Administration Phase Review Process Guidelines* for this checklist.

   For assistance in conducting these reviews and understanding OA time frames, contact Jonathon F. Thompson at the United States Business Center (USBC). See VTX ELF for location information.

b. POM menu and Common Scheduling Tables are updated.

c. *Systems and Option Catalog* and *Sales Update* accurately reflect both configuration and ordering guidelines.

d. Sales Activity Code (SAC) code updated.*

## A.2 ORDER PROCESSING

This heading defines and describes the order channels within Digital. It is recommended that while products and services are planned and developed, the proper considerations and actions will be made to permit the product to be managed and sold through these channels.

* The Sales Activity Code (SAC) is a code used in Digital to classify shipments of hardware and software as well as performance of revenue-generating services. These shipment classifications are then summarized and reported to management and used in various financial statements issued to the public.
SACs are broken down by noncosted and costed codes. This differentiation is important since various financial systems use the SAC code to determine whether a part should be assigned a standard cost (if a costed code) or a cost of zero (if a noncosted code), even if the part has a cost on file. Within each of these two categories a number of revenue classifications are assigned.
A code change can only be made by the product manager(s) contacting the Digital Standard Price System (DSPS) office.

### A.2.1 OVERVIEW OF DIGITAL'S ORDERING CHANNELS

Customers may choose from four complementary ordering channels to place their order with Digital.

1. **Customer Administrative Services**

   **Customer Administrative Services (CAS)** is the Field organization that works closely with Sales to manage order-processing and Customer Service activities. Orders requiring personal interaction will be handled by CAS. They provide problem resolution to customers and Sales throughout the order transaction process, manage customers' orders from receipt through post shipment, and provide ongoing customer information as part of their order management activities.

   CAS also provides Digital and its customers with order management services while maintaining a balance between the needs and interest of Digital, its customers, stockholders, and employees. To achieve this balance, CAS operates as part of a District team with Credit, Sales, Revenue, and Service personnel.

2. **DECdirect** is one of the largest automated teleordering organizations for one-stop shopping. Customer Service Administrators provide pre- and post-order support, and accept orders for Digital products: workstations, personal computers, software, tapes, disks, terminals, printers, accessories, and supplies.

3. **Digital's Electronic Store** is an on-line product information and ordering system, to which customers can call with their terminals or personal computers and modems. Customers can use the Electronic Store to review product and service information, order products, and monitor their orders' status.

4. **Electronic Data Interchange (EDI)** is the electronic exchange of business documents from customer to supplier (trading partners) with minimal human intervention. Selected customers can enter requisitions on their purchase order systems and the requisitions will be released electronically in ANSI X.12 format to Digital's order processing system. All Digital products are available through EDI ordering.

#### A.2.1.1 Ordering Through the Direct-Ordering Channels

To ensure products can be ordered through the direct channels, the following needs to be completed.

- **PAC Approval:** Only products which are salable and have been approved by PAC can be offered through the direct channels.
- **Product must be available and ready for shipment:** Products which are still in development cannot be ordered through the direct channels. A product must be on the price file with a lead time to enable the ordering channels to commit to a delivery date.
- **Technical support:** Pre-Sales technical support must be available through an established Digital group. The product manager has the responsibility for training this group.
  Products advertised in the DECdirect Catalog are supported by the Technical Consulting and Configuration Assistance Center (TCC) in Merrimack, NH.
- **Available for all customers:** Products must be available to all customers. The direct channels do not have the capability to restrict ordering by a specific subset of customers.

- **Standard Terms and Conditions:** The direct channels do not have the capability to screen orders to enforce specific product or program rules.

#### A.2.1.2 DECdirect

DECdirect, also known as the Digital Telephone Ordering Center (DTOC), is a teleordering organization, has over a hundred Customer Service Administrators handling thousands of calls daily. Customers call DECdirect to place orders, obtain pricing and part number information, find order status, and request post-shipment assistance.

The following products and programs must be reviewed by DECdirect to be orderable.

- Workstations
- Hardware with prerequisite products
- Software with prerequisite products

**Timing:**
The review and implementation process varies by the complexity of the product. Complex products may require up to 12 weeks to plan.

**Contact:**
Nancy Quinlan, Business Support Group (CGVAX2::QUINLAN, or Nancy Quinlan @DDD). Use VTX ELF for telephone information.

#### A.2.1.3 Electronic Store

Customers can access this information by dialing a toll-free number with any Digital terminal and a 1200/2400 baud modem.

To promote and sell products through the Electronic Store, product managers must:

- Ensure the product is PAC approved.
- Ensure the product is on DSPS with the proper codes.
- Provide a product description.

**Timing:**
The review and implementation process varies by the complexity of the product. Complex products may require up to 12 weeks from product marketing to order implementation to plan.

**Contact:**
Jan Carlton, Information Manager (STORE::CARLTON).
Nancy Quinlan, Business Support Group (CGVAX2::QUINLAN, or Nancy Quinlan @DDD). Use VTX ELF for telephone information.

#### A.2.1.4 DECdirect Catalog

The DECdirect Catalog is a marketing catalog serving as both an ordering vehicle and a reference document for all appropriate Corporate aftermarket products, such as add-ons, upgrades, workstations, peripherals, networking products, software, accessories, and services for all Digital systems.

**DECdirect Catalog Criteria**

- Basic prerequisite criteria
  - — The product must be orderable through all ordering channels.
  - — Technical Support for the product must be available from the DECdirect Technical Consulting and Configuration Assistance Center without any other telephone transfers.
- All new products, and any products never before appearing in the DECdirect catalog, must be submitted on a DECdirect catalog application form according to the published DECdirect catalog schedule for the fiscal year. Products will then be reviewed by the CPC to ensure final product approval to allow sufficient time for catalog preparation.

**Frequency:**

- Catalog mailings every 6 to 8 weeks (total of 8 mailings during the year)
- Two full-line catalogs (Q2 and Q4)
- Two desktop editions (Q1 and Q3)
- Four DECdirect NOW updates between the full-line and desktop editions

**Contact:** Mike Ginsberg (AIMHI::MGINSBERG, or Mike Ginsberg @MKO). Use VTX ELF for telephone information.

### A.2.1.5 FASTship Program

The FASTship program is a customer and market demand-driven program that is a fully integrated process designed to ship products by the end of the next business day, and to deliver and invoice customer orders within 5 to 7 days from order receipt. There are approximately 1,000 products on the FASTship menu. Products include small systems, software, memory, video terminals, printers, networking and communications products, disk and tape drives, media, and supplies.

Customer orders qualify for the FASTship delivery program if the products are on the FASTship menu.

To take advantage of the FASTship program, products must be approved by the FASTship Operations Committee (FSOPS) and must meet the following criteria.

- Support Digital goals
- Have a business plan to ensure ongoing product availability to support the program. The plan must include:
  1. A FASTship forecast
  2. Product End-of-Life plan
- Not require Digital consolidation before distribution
- Be orderable through all ordering channels.
- Have a 6 month commitment of uninterrupted supply from Manufacturing (NOTE: All dependent products must also qualify and be included on the FASTship menu.)

**Timing:**
The length of time for a product to be processed for the FASTship program varies. If all criteria have been met before FSOPS review, 2 weeks are required to add the product to the FASTship Menu.

**Contact:**
Tammie Aron (AIMHI::ARON, or Tammie Aron @MKO) Use VTX ELF for telephone information.

# APPENDIX B DISTRIBUTION PLAN

## B.1 DISTRIBUTION PLAN CONTENT

The development and completion of the product distribution plan is a major factor in DEC STD 072 qualification.

This subhead contains an outline of the Distribution Plan with brief descriptions and considerations of the contents.

1. Logistics planning information
    a. Product planning assumptions
        i Identification of baseline product
            - Network flow
            - Distribution cost and timing
            - Current capture rates of add-ons
        ii Product configuration
            - Product configurations
            - Configuration
            - Product variants (if available)
            - Weights and dimensions
        iii Build strategy
            - Make to order or make to stock
            - Prime and secondary plants
            - Inventory levels (make to stock)
            - Start-up strategy
            - Announcement strategy (units on shelf at revenue ship (FRS))
        iv Demand characteristics
            - Forecast (sourced and dated)
            - Average system value (per forecast)
            - Announcement day systems (if any)
            - Geographic split
            - Europe country split
            - GIA regional split
            - U.S. east/west split
        v Competitive information

vi Order characteristics
- Order completeness (where and when)
- Partials or no partials
- Business channels
- Projected capture rates for add-ons

vii Software
- Licensing strategy
- Sourcing strategy
- Factory installed
- Traditional
- VMS™, ULTRIX™, VAXELN™, and so on
- Media type (CDROM or tape)

viii Handling requirements
- Technology
- Special handling

ix Sourcing strategy (Order/Product)
- Local content components (EUR/GIA)
- Major and critical components

x Marketing channels
- Distribution, OEM, end user

xi Return strategy
- Idle Material Management (IMM)
- Z-stock

b. Customer product service requirements

i Order cycle time requirements

ii Delivery requirements
- Handling requirements (special or routine)
- Terms and conditions (external orders only)
- Delivery window
- Frequency of delivery
- On time delivery (measure performance)

iii Packaging requirements
- Modular?
- How many boxes?
- Biodegradable?

iv Installation requirements
- Problem-free installation (PFI; short ship/misship goals)

c. Corporate/PBU/Plant goals
i Financial goals
- Identify distribution costs

ii Inventory turns
- Product specific
- Support Corporate/plant

iii Manufacturing goals
- Just-in-Time (JIT)
- Product/plant

iv Time-to-Market

v Order/cumulative cycle times
- Product
- Order

d. Phase review schedule

2. Distribution alternatives
a. Executive flow
b. Material flow
i Network flow
ii Inbound or outbound
iii Timing and cost
c. Packaging requirements
i Units per pallet
ii Units per container
iii Reusable container
iv JIT impact
v Consolidation
vi Modular or inventory deployment
vii Digital's costs and customer costs
viii Processes
ix Technology
d. Detailed delivery requirements
i Cost of delivery services
ii Deskidding, inside delivery, time, and so on
iii Daily, weekly, and so on

e. Inbound cost analysis
   i Handling
   ii Sweeps
   iii Mode of transportation
   iv Transit times
   v Stocking points
   vi Direct shipments
   vii Insurance
   viii Impact statements
   ix Existing network
   x Freight budget
   xi Product costs (total per unit)

f. Outbound cost analysis
   i Handling
   ii Consolidation points
   iii Mode of transportation
   iv Transit times
   v Stocking points
   vi Direct shipments
   vii Worldwide distribution
   viii Insurance
   ix Existing carrier contracts
   x Supplier carriers
   xi Digital's costs and customer costs
   xii Product costs (total per unit)

g. Duty and compliance
   i Generalized Systems of Preference (GSP)
   ii Europe
   iii Temporary Duty Suspension (TDS)
   iv Duty transfer
   v Valuation
   vi Antidumping
   vii Harmonized codes
   viii Bonded warehouses
   ix Customs regulatory
   x Licensing (import/export)

xi Hazardous materials
xii Origin
xiii Other regulations

h. Internal operations
   i Warehouse appraisal (space, technology, capital)
   ii Inventory stocking points
   iii Existing systems
   iv Existing processes

i. Total distribution costs
   i Benchmark costs for current products
   ii Elements of distribution costs
   iii Distribution part of cumulative cycle time (CCT)
   iv Transaction costs as related to alternatives

j. Other cost saving opportunities
   i Just-In-Time (JIT)
      - Ship to work-in-process (WIP)
      - Space
   ii Reducing cycle times
      - Alternative sourcing
      - Make/buy
      - Alternative distribution channels
      - Alternative build/stocking strategies
   iii Integration required to achieve goals
      - Interarea
      - Functional (Distribution, Order Administration, Materials)
      - Business (Marketing, Sales, Logistics, Manufacturing, Engineering)

3. Assumptions/risks/recommendations
4. Performance measurements

# APPENDIX C REFERENCED DOCUMENTS

## C.1 EL-Class Digital Documents

| EL-Class Number | Document Title |
|---|---|
| EL-00009-01 | *DEC STD 009-1 Product Engineering Specifications: Electrical, Physical, and Environmental Parameters* |
| EL-00012-00 | *DEC STD 012-0 Part Identification Standard* |
| EL-00028-00 | *DEC STD 028-0 Phase Review Policy* |
| EL-00030-00 | *DEC STD 030-0 Module Manufacturing Standard - Introduction and General Information* |
| EL-00041-00 | *DEC STD 041-0 Customer Installability: Product Requirements* |
| EL-00047-00 | *DEC STD 047-0 Bar Code Symbology Criteria* |
| EL-00047-01 | *DEC STD 047-1 Bar Code: Product and Shipping Carton/Container Labelling* |
| EL-00060-00 | *DEC STD 060-0 Design of Hardware Products to National and International Regulations and Standards, Policies and Procedures* |
| EL-00066-00 | *DEC STD 066-0 Digital Design Standards* |
| EL-00068-00 | *DEC STD 068-0 Policy for Documentation of Revision Levels of Units and Combinations of Units* |
| EL-00102-00 | *DEC STD 102-0 Environmental Standard for Computers and Peripherals - General Test Requirements* |
| EL-00103-00 | *DEC STD 103-0 Electromagnetic Compatibility (EMC) - Overview and Process Requirements* |
| EL-00104-00 | *DEC STD 104-0 Product Acoustic Noise Limits* |
| EL-00105-00 | *DEC STD 105-0 Display Workstation Ergonomics (Human Factors): Design Criteria* |
| EL-00119-00 | *DEC STD 119-0 Digital Product Safety - Introduction and General Requirements* |
| EL-00131-00 | *DEC STD 131-0 Traceability Policy* |
| EL-00131-01 | *DEC STD 131-1 Controlled Components* |
| EL-00178-00 | *DEC STD 178-0 Digital Identification Marking Requirements - Introduction* |
| EL-00178-01 | *DEC STD 178-1 Digital Marking Requirements for Piece Parts* |
| EL-00178-02 | *DEC STD 178-2 Digital Marking Requirements for Subassemblies: Field Replaceable Units (FRU) and Non-Field Replaceable Units* |
| EL-00178-03 | *DEC STD 178-3 Digital Marking Requirements for Completed Products Intended to Be Sold* |
| EL-00178-06 | *DEC STD 178-6 Marking and Labeling Requirements for Diagnostic Tools and Diagnostic Software* |
| EL-00178-07 | *DEC STD 178-7 Translations* |
| EL-00178-08 | *DEC STD 178-8 General Shipping Documentation and Container Labeling Requirements for Finished Goods Intended to be Shipped to Customers* |
| EL-MF005-00 | *Manufacturing Waiver Policy* |
| EL-MF072-00 | *Point of Manufacture (POM) Communications and Operations Guide* |
| EL-MF072-01 | *Technical Verification Methodology for POM Qualification* |

| EL-Class Number | Document Title |
|---|---|
| EL-MF356-05 | *Manufacturing Order Administration Phase Review Process Guidelines* |
| EL-MF356-08 | *Materials Engineering Domain Phase Review Guidelines* |
| EL-MF409-00 | *Awareness and Prevention of Electrostatic Discharge* |
| EL-MF712-00 | *Corrective Action Process* |

Use VTX SMC to order copies of EL-class documents from Standards and Methods Control. Send distribution questions to JOKUR::SMC or call DTN: 234-4423.

*Technical Verification Methodology for POM Qualification, EL-MF072-01* is under development. Use VTX SMC for status.

## C.2 Other Digital Documents

| Document Number | Document Title |
|---|---|
| | *Systems and Options Catalog* |
| | *Sales Update* |

*Systems and Options Catalog:* Contact Pat Vanolinda at DTN 293-5405, BXB2-2.
*Sales Update:* Electronically submit name, badge number, cost center, mailstop, job code, and a brief description of your job function to SLSTRN::SU_SUBSCRIPT.

These publications may also be obtained at Digital libraries.

# GLOSSARY

**BOM**: Bill of Materials

**Common Scheduling**: A series of tables to facilitate correct sourcing in scheduling of POM-qualified products to the POM sites.

**Configurable Option**: An option in which other options can be installed.

**Country Kits**: Items shipped with a product, such as cabinets, labels, software, and keyboards for appropriate national languages.

**CSA**: Canadian Standards Association

**CSM**: Computer Systems Manufacturing

**CSSE**: Customer Service System Engineering

**Customer Environment** : An environment that reflects a high representation of the customer base. This environment encompasses hardware, operating systems, and software application interaction.

**Demonstration of Process Impact on Product Reliability**: Statistical demonstration of process impact (or nonimpact) on product reliability, using latest and most appropriate statistical tools.

**Design Reliability Demonstration**: Statistical demonstration of inherent steady-state reliability, using latest and most appropriate statistical tools.

**DOA**: Dead on arrival

**embeddable**: Capable of being embedded or integrated into the CPU cabinet, expander cabinet, or its designated cabinet.

**FCC**: Federal Communications Commission

**finished product**: Products that have been completely manufactured and do not require any other value added to ship to a customer.

**FSOPS Review**: FASTship Operations Committee

**Loose-Piece Process**: This process covers the loose-piece box that ships with the CPU and/or expander cabinet. This box will contain all of the documentation and assist hardware required to support the embedded options within the CPU and expander cabinets.

**Marketing Product Part Number**: Two or more current products (POM qualified) marketed under a specific part number to satisfy a marketing need.

**MBU**: Manufacturing Business Unit

**MRP**: Material Requirements Planning

**OA Review**: This review is a cross-functional team concept. Technical Edit, Engineering, and Information Systems form the team to ensure that all order fulfillment systems and organizations are in a ready condition at first revenue shipment (FRS).

**ORT**: Ongoing reliability testing

**Out of Control**: A profile of defects which is specified in the product specific User Audit and ORT documents.

NOTE: A defect is any problem that must be repaired before a customer installation is complete.

**PAC**: Pricing and Announcement Committee

**PCA**: Preliminary Change Authorization provides the vehicle to control parts and documents prior to formal release.

**Pilot**: Pilot units must be indicative of the volume process and should be exactly as the customer would receive them. This is also known as first production run.

**PFI**: Problem free installation

**Plant POM Focus**: A permanent member of the POM Forum, located at the manufacturing plant for strategic support of the Product POM Focus.

**Plug and Play**: A product that arrives at the customer site as a finished product with minimal Customer Service/customer intervention.

**POM**: Point of Manufacture is the facility that creates a finished product according to its engineering definition and a defined manufacturing process.

**POM Menus**: System and option sourcing menus of qualified products that provide input to Common Scheduling tables.

**POM Qualification**: The successful completion of the product's POM checklist with no risks as identified at the POM decision meeting.

**POM Verification**: The DEC STD 072 verification work leading to POM Qualification.

**PONC**: Price of Non-Conformance

**Preconfigured System**: Systems built in a predetermined configuration (Packaged System)

**Product Plant** : The term product plant refers to the plant that produces the product or the group responsible for the product, if the product is not manufactured by Digital.

**Product POM Focus**: A member of the Manufacturing Team or the person designated by the Manufacturing New Product Team to monitor and manage the completion of the POM checklist for a specific product.

**QVL**: Qualified Vendor List

**RDC**: Remote Distribution Center

**SAC**: Sales Activity Code

**SSB**: Software Supply Business

**SEE**: System Evaluation Engineering

**SIE**: System Integration Engineering - System Integration Engineering maintains an environment representative of the current computer customer environment. The SIE organization is part of U.S. Manufacturing Engineering and Technology.

**SIE Lab**: The System Integration Engineering Lab is the recognized lab within CSM to perform POM verification testing across all systems.

**System T**: Corporate Order Administration system by which orders are passed from Area Management Centers and issued to plants using a build transfer authorization.

**Total Product Cost**: The total product cost extends from the costs of selling, order processing, manufacturing, delivery, and installation.

**UL**: Underwriters Laboratory

**USCD**: United States Customer Distribution

**VMI**: Visual/Mechanical Inspection

**XCON/XSEL**: Expert Configurator Data Base Systems

**vendor**: Non Digital manufacturer

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